

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Claim 1. (Currently Amended)** A nucleic acid molecule separated from its natural source, wherein said nucleic acid molecule encodes a polypeptide comprising SEQ ID NO:2.

**Claim 2. (Original)** The nucleic acid molecule of claim 1, wherein said nucleic acid comprises the nucleic acid sequence of nucleotides 115-1,830 of SEQ ID NO:1.

**Claims 3-4. (Canceled)**

**Claim 5. (Currently Amended)** A nucleic acid molecule separated from its natural source, wherein said nucleic acid molecule encodes a polypeptide comprising amino acids 23-572 of SEQ ID NO: 2.

**Claims 6-8. (Canceled)**

**Claim 9. (Original)** A biologically functional expression vector comprising a nucleic acid sequence encoding an osteoactivin protein, wherein said osteoactivin protein:

- (a) comprises the amino acid sequence of SEQ ID NO:2; or
- (b) comprises amino acids 23-572 of SEQ ID NO:2.

**Claims 10-13. (Canceled)**

**Claim 14. (Previously Presented)** A method for producing a substantially pure osteoactivin protein, or polypeptide fragment thereof, comprising:

- (a) culturing a cell stably transformed with the nucleic acid molecule of claim 1 encoding an osteoactivin protein; and
- (b) isolating and purifying said osteoactivin protein from said culture medium.

Claim 15. (Canceled)

Claim 16. (Currently Amended) A therapeutic composition comprising a nucleic acid molecule encoding an osteoactivin protein comprising SEQ ID NO:2 or comprising amino acids 23-572 of SEQ ID NO:2, or biologically active polypeptide fragment thereof, wherein said osteoactivin protein stimulates bone differentiation.

Claims 17-26. (Canceled)

Claim 27. (Currently Amended) A method for stimulating bone formation in a mammal, comprising administering to said mammal a therapeutically effective amount of a therapeutic composition comprising a nucleic acid molecule encoding an osteoactivin protein, or biologically active polypeptide fragment thereof, wherein said osteoactivin protein stimulates bone differentiation, ~~, or an agent that stimulates osteoactivin-mediated bone differentiation, or an osteoactivin protein, wherein said osteoactivin protein stimulates bone cell differentiation.~~

Claim 28. (Canceled)

Claim 29. (Currently Amended) The method of claim 27, wherein said mammal is human, ~~and wherein said human is administered the therapeutic composition of claim 20.~~

Claim 30. (Original) The method of claim 27, wherein said therapeutic composition is administered to treat a bone disorder.

Claim 31. (Original) The method of claim 30, wherein said disorder is osteoporosis or periodontal disease.

Claims 32-39. (Canceled)

**Claim 40. (Previously Presented)** A method for producing a substantially pure osteoactivin protein, or polypeptide fragment thereof, comprising:

- (a) culturing a cell stably transformed with the nucleic acid molecule of claim 2 encoding an osteoactivin protein; and
- (b) isolating and purifying said osteoactivin protein from said culture medium.

**Claim 41. (Previously Presented)** A method for producing a substantially pure osteoactivin protein, or polypeptide fragment thereof, comprising:

- (a) culturing a cell stably transformed with the nucleic acid molecule of claim 5 encoding an osteoactivin protein; and
- (b) isolating and purifying said osteoactivin protein from said culture medium.

**Claims 42-46. (Canceled)**

**Claim 47. (New)** A host cell comprising the nucleic acid molecule of claim 1.

**Claim 48. (New)** The host cell of claim 47, wherein the nucleic acid molecule is operably linked to a regulatory region.

**Claim 49. (New)** A host cell comprising the nucleic acid molecule of claim 2.

**Claim 50. (New)** The host cell of claim 49, wherein the nucleic acid molecule is operably linked to a regulatory region.

**Claim 51. (New)** A host cell comprising the nucleic acid molecule of claim 5.

**Claim 52. (New)** The host cell of claim 51, wherein the nucleic acid molecule is operably linked to a regulatory region.